

# Cooking A World of New Tastes



## S E G M E N T 2

### Cooking With Moist Heat

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- Steaming
- Boiling
- Glazing





## SEGMENT 2

# Cooking With Moist Heat

### Learning Objectives

- Apply steaming techniques to fresh and frozen vegetables
- Use boiling method (green beans and pasta)
- Use glazing method (carrots)
- Demonstrate the rice pilaf method

There are many ways to cook foods. This segment explores cooking with moist heat. As the name implies, moisture or liquid is added to the cooking process. Moist heat cooking includes steaming, poaching, simmering, boiling, stewing, braising, and glazing. The video explores the most common methods of steaming, boiling, and glazing in school food service.

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*“We are seeing benefits from it; children are accepting the changes; but it isn’t just something that you can throw out at them, it has to be worked in gradually.”*

— Deanna Phillips,  
Healthy Kids Cuisine  
Workshop

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# Steaming



## Chef's Tip

*"If you don't have a commercial steamer, use 3 steam table (hotel) pans, two solid, one perforated. In the deep one, put about 2 inches of water, set on cooking surface, and bring to rapid boil. Then, take the vegetables in the perforated pan; put over the boiling water, cover with lid, and you've got a little steamer."*

— Chef Ron De Santis, CMC  
Culinary Institute  
of America

Steaming is a technique where items are cooked by surrounding them with a vapor bath or steam. Steam pressure can range from standard atmospheric pressure to 35 pounds per square inch (psi). The average range is from 15 to 20 pounds of pressure. Relatively little flavor and moisture are lost with this technique. Liquids used to produce steam (in a non-commercial steamer) can be flavored to enhance the taste of the end product. GREAT for batch cooking!

### Basic Procedures for Steaming

1. Preheat the steamer.
2. Add the main items to the steamer on a rack in a single layer.
3. Cover the steamer or close the door (as with a pressure steamer).
4. Steam the items to the correct doneness.
5. Plate or pan items - use moist heat for holding.

### Effects of Pressure on Steam Temperature

- At sea level the temperature of steam is 212° F.
- For each pound of pressure increased, the temperature increases by 3° F.

Example     6 psi = 230° F.  
                  25 psi = 287° F.

At high altitude (lower pressure) the temperature of steam decreases.

- Check steaming recommendations from manufacturer.

### Equipment Used for Steaming

- hotel pan steamer - perforated pan inserted into a solid pan with lid
- convection steamer
- pressure steamer
- combination oven/steamer (also known as a combi-oven) now popular in schools





# Glazing

This method is best suited for root type vegetables. Carrots, turnips, and onions are vegetables that glaze well.

## Glazed (From Raw)

### Method

1. Wash and trim vegetables
2. Portion or cut
3. Place in a shallow pot with water, sugar, butter (optional)
4. Bring to a rapid simmer and allow the liquid to reduce
5. Stir occasionally
6. When vegetables are cooked, the liquid should have reduced enough to be syrupy

### NOTE

- Glazed vegetables caramelize (brown) lightly.

## Glazed (From Precooked)

### Method

1. Melt butter or margarine (if desired) in shallow pan, add sugar and allow to melt
2. Add precooked vegetables and reheat, season

### NOTE

- *Squash may be covered with foil to prevent excessive caramelization.*



## Chef's Tip

### Glazing

#### Rule of thumb:

- 1 pound of vegetables
- 1 cup of water
- 1 teaspoon sugar
- 1 tablespoon butter (optional)





# Boiling

## Cooking Fresh Vegetables

### Green Vegetables (Beans, Broccoli)

#### Method

1. Clean and trim vegetable
2. Portion or cut into bite-sized pieces
3. Cook in rapidly boiling salted (optional) water
4. When done, drain
5. Shock in cold or ice water, drain, store refrigerated
6. Finish in desired manner

#### NOTE

- Use plenty of water so the recovery time is quicker
- Do not cover the pot during cooking
- Acid destroys color
- Do not use baking soda, it destroys vitamins and causes vegetables to be slimy

#### EXCEPTION TO THE RULE

- Tender spinach can be cooked using very little water in a covered pot.

### Red Vegetables (Beets)

#### Method

1. Wash the beets; trim root and leaf stalks from the beet
2. Cook in boiling water that contains an acid (such as lemon juice or vinegar) and salt
3. When tender, remove skins, cut or portion
4. Return beets to cooled cooking water, store refrigerated
5. Reheat in cooking water, or drain and reheat by sautéing

#### NOTE

- Do not peel beets before cooking
- Do not shock
- Acid intensifies the red color
- Alkaline makes the red turn blue/green and breaks down cellulose
- Beets can also be baked in their skins, then peeled



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## White Vegetables (Cauliflower)

### Method

1. Wash, clean, and trim vegetable
2. Portion or cut into bite-sized pieces
3. Cook in boiling water that contains an acid and salt
4. Drain and shock, or undercook and allow to cool in cooking liquid
5. Drain, store refrigerated
6. Reheat in desired manner

### NOTE

- Acid intensifies the color of white vegetables
- Alkaline makes white vegetables turn yellow

## Yellow Vegetables (Squash, Sweet Potatoes)

### Method

1. Wash, clean, and trim the vegetable
2. Portion or cut into bite-sized pieces
3. Cook in small amount of water that contains salt
4. Shocking is optional (drain if shocked)
5. Store refrigerated
6. Finish in desired manner

### NOTE

- Acid will brighten the color of carrots slightly
- Most yellow vegetables are good for glazing

## Cooking Fresh Vegetables by Other Methods

### Sauté (From Raw)

This method may be used for vegetables that are tender and high in moisture. Mushrooms, tomatoes, and zucchini are examples of vegetables high in moisture.

### Method

1. Wash, clean, and trim the vegetables
2. Cut into desired shapes
3. Sauté in butter, margarine, or oil until done
4. Season





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### Sauté (From Precooked)

This method is used to reheat precooked vegetables. Cooked beans and cooked carrots are examples of precooked vegetables.

#### Method

1. Drain vegetable if necessary
2. Sauté in butter or oil, only long enough to reheat
3. Season

### Braising

This method uses dry and moist heat and can be used for many types of vegetables. Cabbage, beet greens, lettuce, and leeks are good examples.

#### Method

1. Wash, clean, and trim vegetables
2. Portion or cut
3. The vegetable may be sautéed or blanched previous to braising (this step is optional)
4. Place vegetable in shallow pan and partially cover with seasoned liquid (additional seasonings and flavorings may also be added)
5. Bring the liquid to a simmer, cover
6. Bake in the oven until vegetable is tender
7. Braising liquid may be left as is, or it may be reduced and finished with butter

#### NOTE

- Braising is not used as a method of reheating precooked vegetables

### Stewed Vegetables

This method involves cooking vegetables in liquid or sauce. Good examples include ratatouille and stewed tomatoes.

#### Method

1. Clean and trim vegetables
2. Portion or cut
3. Sauté lightly in butter, add other vegetables, seasonings, and flavorings
4. Add liquid, bring to a simmer
5. Simmer until vegetables are tender

#### NOTE

- The stewing technique is not generally used for precooked vegetables.
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## Cooking Canned Vegetables

When using canned vegetables, reheat them in the liquid from the can, and adjust seasonings.

What are the advantages of using canned vegetables?

- Longer shelf life
- Practical for some vegetables, such as beets and beans (garbanzo, kidney, black)

What are the disadvantages of using canned vegetables?

- Duller color (green vegetables)
- Softer texture
- Less flavor (taste canned)

From the  
Kitchen of



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Chinese Style Vegetables.....	67

**Recipes are from USDA's Quantity Recipes for  
School Food Service, PA-1371.**

## Cooking Pasta

Pasta comes in all kinds of shapes and sizes. Students like elbow macaroni, wagon wheels, bow ties, butterfly pasta, and, of course, spaghetti.

Always check the directions for the number of minutes to cook pasta. Cooking times vary—depending on the shape and size.  
**USE PLENTY OF WATER.**



Keep the pasta *moving* in the boiling water to prevent sticking. Stir constantly.

Check for doneness. Pasta is ready when it is “Al dente”—or firm to the tooth, with some resistance but no dark or uncooked core. Taste it! Drain!

## Cooking Rice

Rice comes in a wide variety of types: white, wild, brown, basmati, enriched, converted, and in a wide variety of combinations. Cooking methods include boiling, steaming, simmering, and pilaf method.

### Pilaf Method

**1 part rice: 2 parts liquid (can be flavored; for example, the Orange Rice Pilaf recipe on page 73 uses orange juice)**

Pour hot simmering liquid over the specified amount of rice. Cover with aluminum foil.

Keep covered and bake until done.

The flavored liquid is absorbed into the grain and nutrients are retained.

Very flavorful!

From the  
Kitchen of



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Recipes are from USDA's Quantity Recipes for School Food Service,  
School Lunch Challenge II, and the Tool Kit for Healthy School Meals

# Questions & Answers

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1. **Question:** Why do we cook vegetables?  
**Answer:** They taste better and are easier to digest.
2. **Question:** What is the importance of cooking properly?  
**Answer:** It is important to maintain a pleasing texture. Excessive cooking causes loss of nutrients. Proper cooking techniques help to preserve color.
3. **Question:** Do we need to shock frozen vegetables?  
**Answer:** No. Frozen vegetables have already been blanched.
4. **Question:** Is it necessary to add oil to the water when cooking pasta?  
**Answer:** No. Rapid boiling water and stirring will keep pasta from sticking together.
5. **Question:** How do you know when pasta is done?  
**Answer:** Look at it and taste it. The texture should be firm at the center. This is known as al dente.
6. **Question:** What is the rice pilaf method?  
**Answer:** A culinary technique for cooking grain in liquid is known as pilaf. Rice pilaf is common. Use 1 part rice and 2 parts liquid.

